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DEC 26 2007
IAP
PATENT & TRADEMARK OFFICE

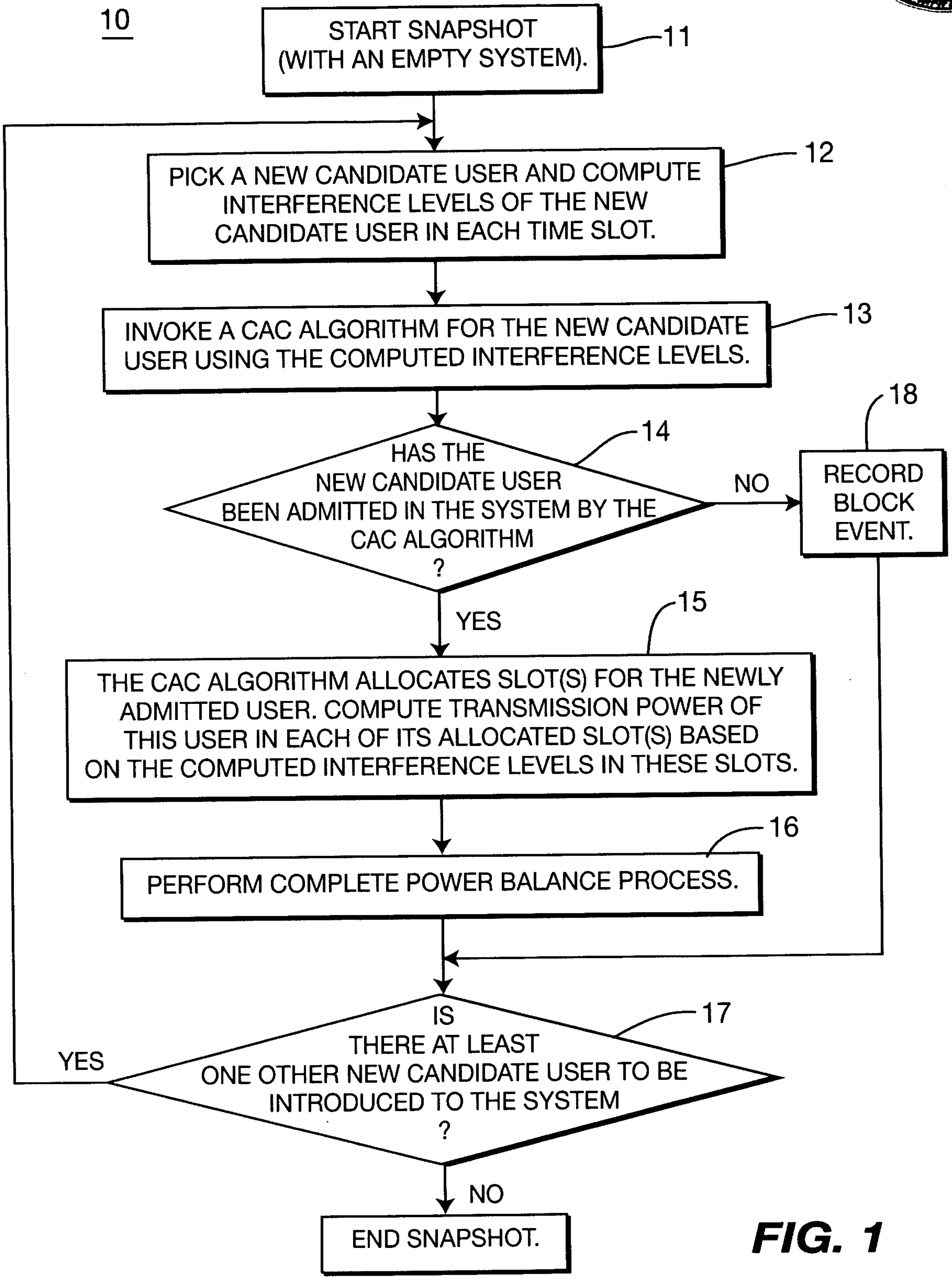
10
START SNAPSHOT (WITH AN EMPTY SYSTEM).
11
PICK A NEW CANDIDATE USER AND COMPUTE INTERFERENCE LEVELS OF THE NEW CANDIDATE USER IN EACH TIME SLOT.
12
INVOKE A CAC ALGORITHM FOR THE NEW CANDIDATE USER USING THE COMPUTED INTERFERENCE LEVELS.
13
HAS THE NEW CANDIDATE USER BEEN ADMITTED IN THE SYSTEM BY THE CAC ALGORITHM ?
14
NO
RECORD BLOCK EVENT.
18
YES
THE CAC ALGORITHM ALLOCATES SLOT(S) FOR THE NEWLY ADMITTED USER. COMPUTE TRANSMISSION POWER OF THIS USER IN EACH OF ITS ALLOCATED SLOT(S) BASED ON THE COMPUTED INTERFERENCE LEVELS IN THESE SLOTS.
15
PERFORM COMPLETE POWER BALANCE PROCESS.
16
IS THERE AT LEAST ONE OTHER NEW CANDIDATE USER TO BE INTRODUCED TO THE SYSTEM ?
17
YES
NO
END SNAPSHOT.

FIG. 1

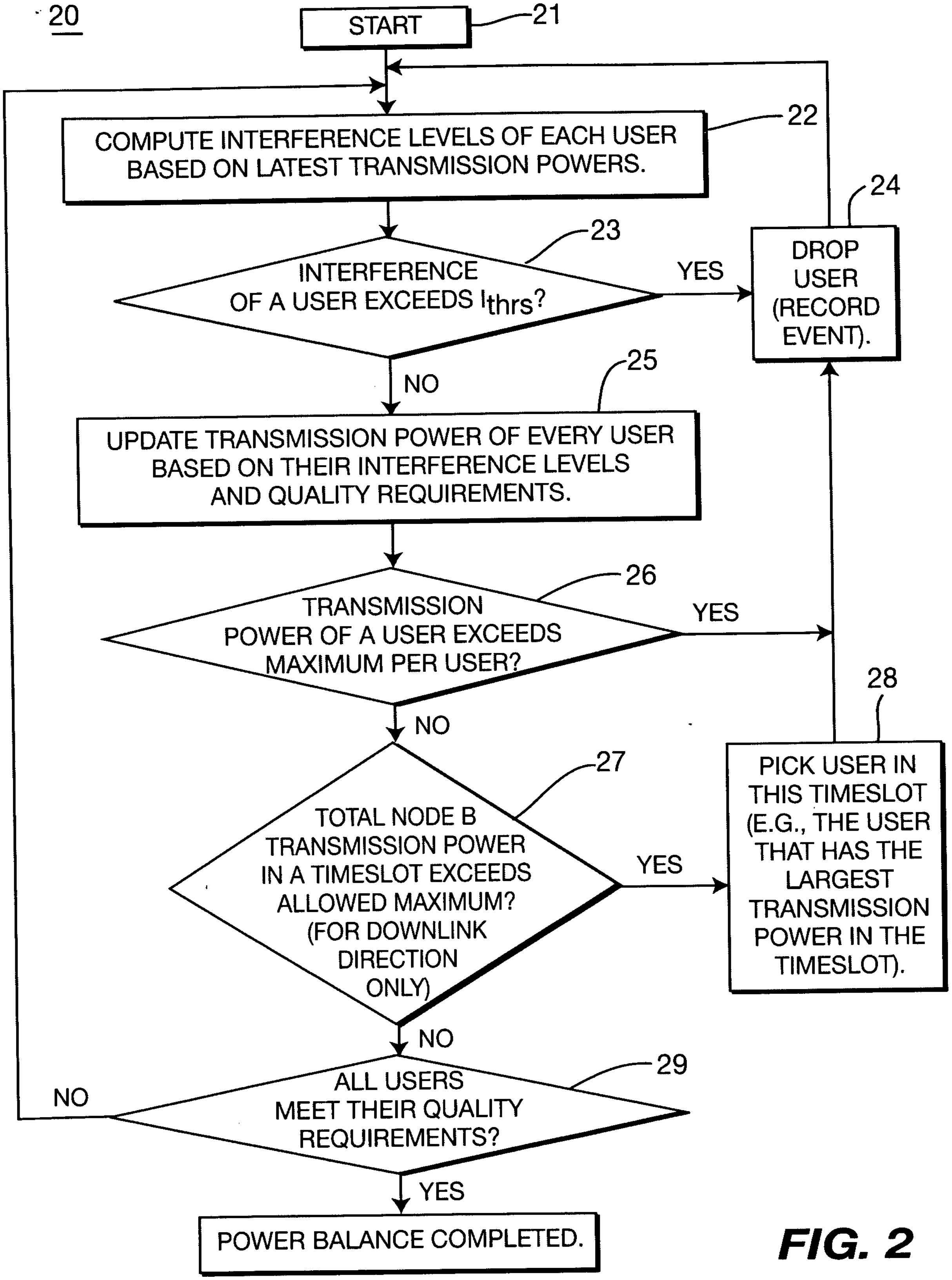
20
START
21
COMPUTE INTERFERENCE LEVELS OF EACH USER BASED ON LATEST TRANSMISSION POWERS.
22
INTERFERENCE OF A USER EXCEEDS Ithrs?
23
YES
DROP USER (RECORD EVENT).
24
NO
UPDATE TRANSMISSION POWER OF EVERY USER BASED ON THEIR INTERFERENCE LEVELS AND QUALITY REQUIREMENTS.
25
TRANSMISSION POWER OF A USER EXCEEDS MAXIMUM PER USER?
26
YES
NO
TOTAL NODE B TRANSMISSION POWER IN A TIMESLOT EXCEEDS ALLOWED MAXIMUM? (FOR DOWNLINK DIRECTION ONLY)
27
YES
PICK USER IN THIS TIMESLOT (E.G., THE USER THAT HAS THE LARGEST TRANSMISSION POWER IN THE TIMESLOT).
28
NO
ALL USERS MEET THEIR QUALITY REQUIREMENTS?
29
NO
YES
POWER BALANCE COMPLETED.

FIG. 2

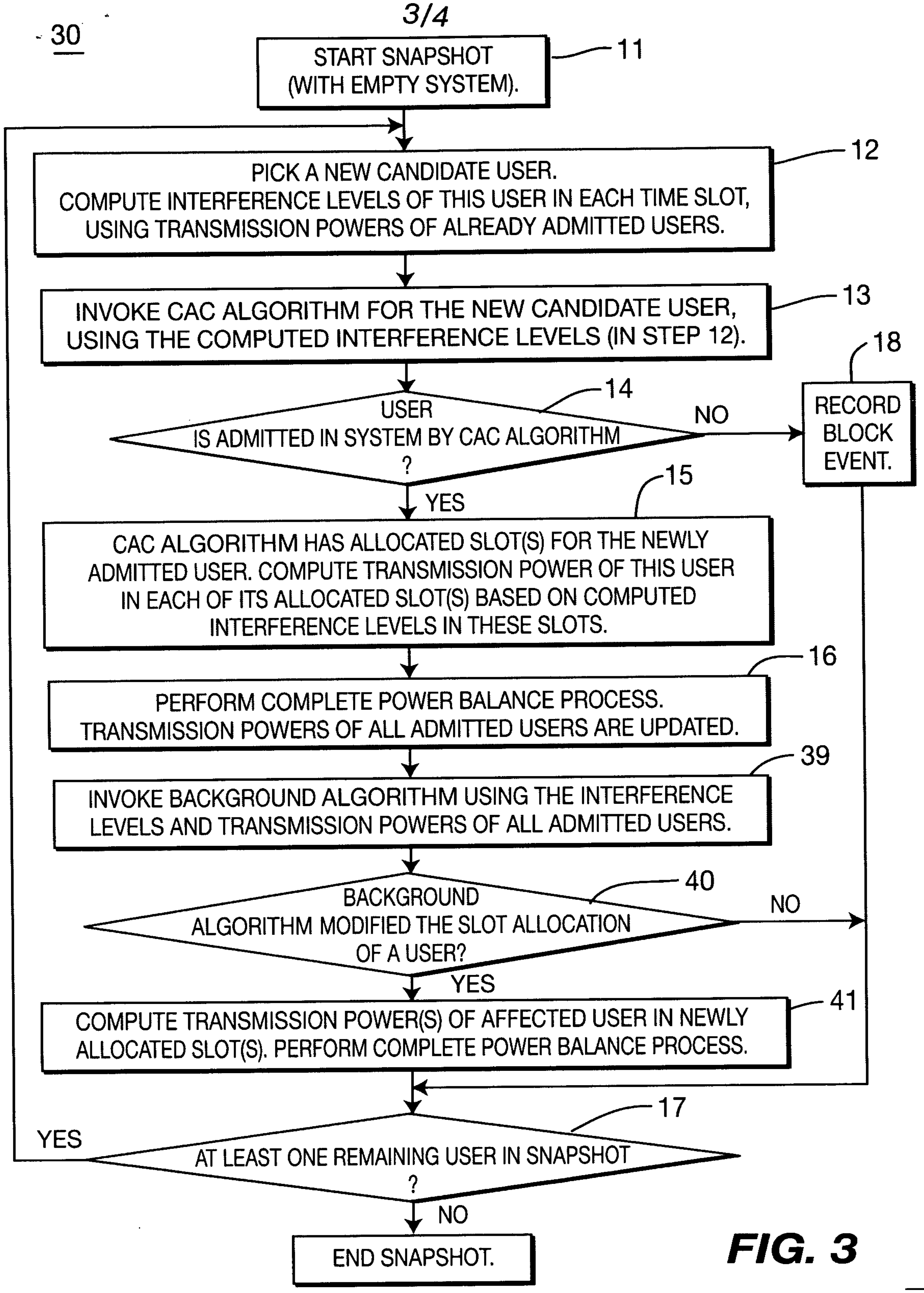
30
START SNAPSHOT (WITH EMPTY SYSTEM).
11
PICK A NEW CANDIDATE USER. COMPUTE INTERFERENCE LEVELS OF THIS USER IN EACH TIME SLOT, USING TRANSMISSION POWERS OF ALREADY ADMITTED USERS.
12
INVOKE CAC ALGORITHM FOR THE NEW CANDIDATE USER, USING THE COMPUTED INTERFERENCE LEVELS (IN STEP 12).
13
USER IS ADMITTED IN SYSTEM BY CAC ALGORITHM ?
14
NO
RECORD BLOCK EVENT.
18
YES
CAC ALGORITHM HAS ALLOCATED SLOT(S) FOR THE NEWLY ADMITTED USER. COMPUTE TRANSMISSION POWER OF THIS USER IN EACH OF ITS ALLOCATED SLOT(S) BASED ON COMPUTED INTERFERENCE LEVELS IN THESE SLOTS.
15
PERFORM COMPLETE POWER BALANCE PROCESS. TRANSMISSION POWERS OF ALL ADMITTED USERS ARE UPDATED.
16
INVOKE BACKGROUND ALGORITHM USING THE INTERFERENCE LEVELS AND TRANSMISSION POWERS OF ALL ADMITTED USERS.
39
BACKGROUND ALGORITHM MODIFIED THE SLOT ALLOCATION OF A USER?
40
NO
YES
COMPUTE TRANSMISSION POWER(S) OF AFFECTED USER IN NEWLY ALLOCATED SLOT(S). PERFORM COMPLETE POWER BALANCE PROCESS.
41
YES
AT LEAST ONE REMAINING USER IN SNAPSHOT ?
17
NO
END SNAPSHOT.

FIG. 3

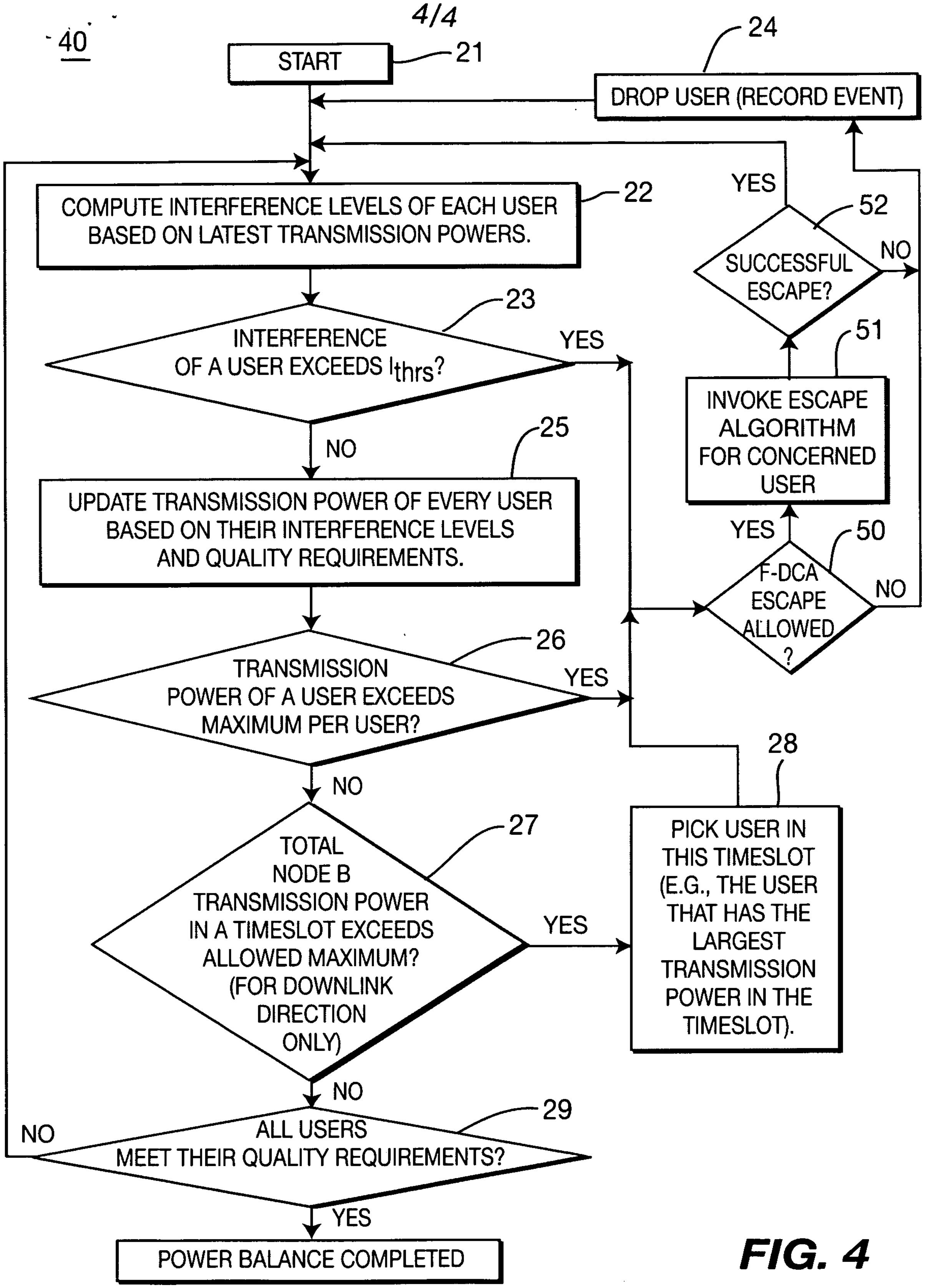
40
START
21
DROP USER (RECORD EVENT)
24
COMPUTE INTERFERENCE LEVELS OF EACH USER BASED ON LATEST TRANSMISSION POWERS.
22
INTERFERENCE OF A USER EXCEEDS I_{thrs}?
23
YES
NO
UPDATE TRANSMISSION POWER OF EVERY USER BASED ON THEIR INTERFERENCE LEVELS AND QUALITY REQUIREMENTS.
25
TRANSMISSION POWER OF A USER EXCEEDS MAXIMUM PER USER?
26
YES
NO
TOTAL NODE B TRANSMISSION POWER IN A TIMESLOT EXCEEDS ALLOWED MAXIMUM? (FOR DOWNLINK DIRECTION ONLY)
27
YES
NO
PICK USER IN THIS TIMESLOT (E.G., THE USER THAT HAS THE LARGEST TRANSMISSION POWER IN THE TIMESLOT).
28
ALL USERS MEET THEIR QUALITY REQUIREMENTS?
29
NO
YES
POWER BALANCE COMPLETED
F-DCA ESCAPE ALLOWED ?
50
YES
NO
INVOKE ESCAPE ALGORITHM FOR CONCERNED USER
51
SUCCESSFUL ESCAPE?
52
YES
NO

FIG. 4